

This listing of claims will replace all prior versions of claims in the application.

Claims 1-21. (cancelled)

Claim 22. (previously presented) A method for forming a photoresist relief image on a substrate comprising:

- (a) applying a coating layer of a chemically-amplified positive photoresist composition on a substrate, the photoresist composition comprising (i) a phenolic resin that comprises at least three distinct repeat units and (ii) one or more photoacid generator compounds, wherein the one or more photoacid generator compound are present in a concentration of from 11 to 15 weight percent based on weight of total solids of the photoresist composition, and
- (b) exposing the photoresist coating layer to EUV radiation to form a photoresist relief image.

Claim 23. (currently amended) The method of claim 22 wherein the one or more photoacid generator compounds are present in a concentration of at least about 12 weight percent based on weight of total solids of the photoresist composition

Claim 24. (new) The method of claim 22 wherein the one or more photoacid generator compounds are ionic compounds.

Claim 25. (new) The method of claim 22 wherein the one or more photoacid generator compounds are non-ionic compounds.

Claim 26. (new) The method of claim 22 wherein the one or more photoacid generator compounds are onium compounds, imidosulfonate compounds, N-sulfonyloxyimide compounds, sulfonate ester compounds, nitrobenzyl compounds, disulfone compounds, and/or halogenated non-ionic compounds, or mixtures thereof.

Claim 27. (new) The method of claim 22 wherein the one or more photoacid generator compounds produce a halo-alkyl sulfonic acid upon exposure to activating radiation.

Claim 28. (new) The method of claim 22 wherein the one or more photoacid generator compounds produce a per-fluoro sulfonic acid upon exposure to activating radiation.

Claim 29. (new) The method of claim 22 wherein the resin comprises a polymer photoacid-labile alkyl acrylate units.

Claim 30. (new) The method of claim 22 wherein the resin comprises 1) phenolic units, 20 phenyl units, and 3) photoacid-labile alkyl acrylate units.

Claim 31. (new) The method of claim 22 wherein the resin comprises a polymer that contains acetal, ketal or ortho ester groups.

Claim 32. (new) The method of claim 22 wherein the photoresist resin component does not contain acetal, ketal or ortho ester groups.

Claim 33. (new) The method of claim 22 wherein the photoresist does not contain a blend of resins of different compositions.

Claim 34. (new) The method of claim 23 wherein the photoresist does not contain a blend of resins of different compositions.

Claim 35. (new) The method of claim 22 wherein the photoresist consists essentially of (i) a phenolic resin that comprises at least three distinct repeat units, (ii) one or more photoacid generator compounds and (iii) a basic additive.

Claim 36. (new) The method of claim 23 wherein the photoresist consists essentially of (i) a phenolic resin that comprises at least three distinct repeat units, (ii) one or more photoacid generator compounds and (iii) a basic additive.

Claim 37. (new) The method of claim 33 wherein the photoresist consists essentially of (i) a phenolic resin that comprises at least three distinct repeat units, (ii) one or more photoacid generator compounds and (iii) a basic additive.